

# **EXHIBIT A**

Name	Accession	Group	Family	Subfamily	Pseudogene?
A6	SK001	Atypical	AGC		N
ABL	SK006	TKL	AD		N
CK1aps3	SK007	CKI	CKI		Y
ACK	SK009	TK	ACK		N
ACTR2	SK010	TKL	STKR	Type2	N
ACTR2B	SK011	TKL	STKR	Type2	N
ADCK4	SK013	Atypical	ABCT	ABCT-A	N
Trb1	SK014	CAMK	TbH		N
BRSK2	SK015	CAMK	CAMK2	BRSK	N
Wnk2	SK016	Other	Wnk		N
MARKps27	SK017	CAMK	CAMK2	MARK	Y
AKT1	SK018	AGC	AKT		N
AKT2	SK019	AGC	AKT		N
AKT3	SK020	AGC	AKT		N
CaMK1g	SK021	CAMK	CAMK1		N
MARKps28	SK022	CAMK	CAMK2	MARK	Y
ALK	SK024	TKL	Alk		N
ALK1	SK025	TKL	STKR	Type1	N
ALK2	SK026	TKL	STKR	Type1	N
BMPR1A	SK027	TKL	STKR	Type1	N
ALK4	SK028	TKL	STKR	Type1	N
TGFbR1	SK029	TKL	STKR	Type1	N
BMPR1B	SK030	TKL	STKR	Type1	N
AMPKa1	SK032	CAMK	CAMK2	AMPK	N
AMPKa2	SK033	CAMK	CAMK2	AMPK	N
ANPa	SK034	RGC	RGC		N
ANPb	SK035	RGC	RGC		N
ARAF	SK036	TKL	RAF		N
ARG	SK037	TK	Abi		N
ATM	SK038	Atypical	PIKK	ATM	N
ATR	SK039	Atypical	PIKK	ATR	N
AurBps1	SK040	Other	AUR		Y
AurAps1	SK041	Other	AUR		Y
AurAps2	SK042	Other	AUR		Y
AurC	SK043	Other	AUR		N
AXL	SK044	TK	Axl		N
BARK1	SK045	AGC	GRK	BARK	N
BCKDK	SK046	Atypical	PDHK		N
BCR	SK047	Atypical	BCR		N
GCK	SK048	STE	STE20	KHS	N
BLK	SK049	TK	Src		N
BRAF	SK050	TKL	RAF		N
BRK	SK051	TK	Src		N
BTK	SK052	TK	Tec		N
BUBR1	SK053	Other	BUB		N
CDK7	SK055	CMGC	CDK7	CDK7	N
CaMK1a	SK056	CAMK	CAMK1		N
CaMK2a	SK057	CAMK	CAMK2		N
CaMK2b	SK058	CAMK	CAMK2		N
CaMK2g	SK060	CAMK	CAMK2		N
CaMK4	SK061	CAMK	CAMK1		N

VACAMKL	SK062	CAMK	CAMK-Unique	N
DCAMKL1	SK063	CAMK	DCAMKL	N
CASK	SK064	CAMK	CASK	N
CDC2	SK065	CMGC	CDK CDC2	N
CDC7	SK066	Other	CDC7	N
CDK2	SK067	CMGC	CDK CDC2	N
CDK3	SK068	CMGC	CDK CDC2	N
CDK4	SK069	CMGC	CDK CDC4	N
CDK5	SK070	CMGC	CDK CDC5	N
CDK6	SK071	CMGC	CDK CDC4	N
CDK8	SK072	CMGC	CDK CDC8	N
PKG1	SK073	AGC	PKG	N
PKG2	SK075	AGC	PKG	N
CHED	SK076	CMGC	CDK CRK	N
CHK1	SK078	CAMK	CAMKL CHK	N
CHK2	SK079	CAMK	RAD53	N
CK1a	SK082	CKI	CKI	N
CK1d	SK083	CKI	CKI	N
CK1e	SK084	CKI	CKI	N
CK1g2	SK086	CKI	CKI	N
CK1g3	SK087	CKI	CKI	N
CK2a1	SK088	Other	CK2	N
CK2a2	SK089	Other	CK2	N
CLK1	SK090	CMGC	CLK	N
CLK2	SK091	CMGC	CLK	N
CLK3	SK092	CMGC	CLK	N
COT	SK093	STE	STE-Unique	N
FMS	SK094	TK	PDGFR	N
CSK	SK095	TK	CSK	N
MARK3	SK096	CAMK	CAMKL MARK	N
CYGD	SK097	RGC	RGC	N
CYGF	SK099	RGC	RGC	N
DAPK1	SK103	CAMK	DAPK	N
DAPK2	SK104	CAMK	DAPK	N
DLK	SK110	TKL	MLK LZK	N
DMPK1	SK111	AGC	DMPK GEK	N
DMPK2	SK112	AGC	DMPK GEK	N
DNAPK	SK113	Atypical	PIKK DNAPK	N
DYRK1B	SK114	CMGC	DYRK Dyrk1	N
DYRK2	SK115	CMGC	DYRK Dyrk2	N
DYRK4	SK116	CMGC	DYRK Dyrk2	N
eEF2K	SK117	Atypical	Alpha eEF2K	N
EGFR	SK118	TK	EGFR	N
PKR	SK119	Other	PEK	N
MARK2	SK120	CAMK	CAMKL MARK	N
EphA1	SK121	TK	Eph	N
EphA2	SK122	TK	Eph	N
EphA3	SK123	TK	Eph	N
EphA4	SK124	TK	Eph	N
EphA5	SK125	TK	Eph	N
EphA8	SK126	TK	Eph	N
EphB1	SK127	TK	Eph	N







MUSK	SK247
MYT1	SK248
NDR1	SK249
NEK1	SK250
NEK2	SK251
NEK3	SK252
NIK	SK253
NLK	SK255
NEK4	SK256
IRAK4	SK257
PIK3R4	SK262
ROCK2	SK263
p38a	SK264
p70S6K	SK265
p70S6Kb	SK266
PAK1	SK267
PAK2	SK268
PAK3	SK269
PKCh	SK270
PCTAIRE1	SK271
PCTAIRE2	SK272
PCTAIRE3	SK273
PDGFRa	SK274
PDGFRb	SK275
PK1	SK276
PDHK1	SK277
PDHK2	SK278
PDHK3	SK279
PDHK4	SK280
PEK	SK281
PFTAIRE1	SK282
PHKg1	SK283
PHKg2	SK284
PIM1	SK291
PIM2	SK292
CDK10	SK294
CDK9	SK295
PITSLRE	SK297
MELK	SK298
MRCKa	SK299
PKACa	SK300
PKACb	SK301
PKACg	SK302
PKCa	SK303
PKCb	SK304
PKCd	SK305
PKCe	SK306
PKCg	SK307
PKCi	SK308
PKD1	SK309
PKCi	SK310
PKCz	SK311

Other	MUSK		N
Other	WEE		N
AGC	NDR		N
Other	NEK1		N
Other	NEK2		N
Other	NEK3		N
STE	STE-UNC5C		N
CMGC	MAPK	ITC	N
Other	NEK		N
IKK	IRAK		N
Other	VPS35		N
AGC	DMPK	ROCK	N
CMGC	MAPK	p38	N
AGC	RSK	p70	N
AGC	RSK	p70	N
STE	STE20	PAK	N
STE	STE20	PAK	N
STE	STE20	PAK	N
AGC	PKC	Ea	N
CMGC	CDK	TAIRE	N
CMGC	CDK	TAIRE	N
CMGC	CDK	TAIRE	N
TK	PDGFR		N
TK	PDGFR		N
AGC	PKB		N
Atypical	PDHK		N
Atypical	PDHK		N
Atypical	PDHK		N
Atypical	PDHK		N
Other	PEK	PEK	N
CMGC	CDK	TAIRE	N
CAMK	PHK		N
CAMK	PHK		N
CAMK	PIM		N
CAMK	PIM		N
CMGC	CDK	CDK10	N
CMGC	CDK	CDK9	N
CMGC	CDK	PITSLRE	N
CAMK	CAMKL	MELK	N
AGC	DMPK	GEK	N
AGC	PKA		N
AGC	PKA		N
AGC	PKA		N
AGC	PKC	Alpha	N
AGC	PKC	Alpha	N
AGC	PKC	Delta	N
AGC	PKC	Eta	N
AGC	PKC	Alpha	N
AGC	PKC	Iota	N
CAMK	PKD		N
AGC	PKC	Delta	N
AGC	PKC	Iota	N

PRKX	SK313
HIPK3	SK314
PLK1	SK315
PLK3	SK316
PKN1	SK317
PKN2	SK318
PRKXps	SK319
PRKY	SK320
PRP4	SK321
PSKH1	SK322
RAF1	SK324
RAF1ps	SK325
RET	SK326
RHOK	SK327
RIPK1	SK328
RIPK2	SK329
RIPK3	SK330
ROCK1	SK331
RON	SK332
ROR1	SK333
ROR2	SK334
ROS	SK335
RSK1	SK336
RSK2	SK337
RSK3	SK338
RYK	SK340
PLK4	SK341
p38b	SK342
p38g	SK343
p38d	SK344
MAST1	SK345
SGK	SK346
MAP2K1ps	SK347
SLK	SK348
PLK2	SK353
MLK3	SK356
SRC	SK357
SRPK1	SK358
SRPK2	SK359
CDKL5	SK361
TAO2	SK362
SYK	SK363
TAK1	SK364
BMPR2	SK365
TEC	SK366
TIE2	SK367
TESK1	SK368
TGFbR2	SK369
TIE1	SK370
TTN	SK372
TLK1	SK373
TLK2	SK374

AGC	PKA				N
CMGC	DYRK		HIPK		N
Other	PLK				N
Other	PLK				N
AGC	PKA				N
AGC	PKA				N
AGC	PKA				N
AGC	PKA				Y
AGC	PKA				N
CMGC	DYRK		PRPK		N
CAMK	PSK				N
TKL	RAF				N
TKL	RAF				Y
TK	Ror				N
AGC	ORC		GRK		N
TKL	RIPK				N
TKL	RIPK				N
TKL	RIPK				N
AGC	DMPK		ROCK		N
TK	Tor				N
TK	Ror				N
TK	Ror				N
TK	Sam				N
AGC	RSK		RSK		N
AGC	RSK		RSK		N
AGC	RSK		RSK		N
TK	Ryk				N
Other	PLK				N
CMGC	MAPK		p38		N
CMGC	MAPK		p38		N
CMGC	MAPK		p38		N
AGC	MAST				N
AGC	SGK				N
STE	STE7				Y
STE	STE20		SLK		N
Other	PLK				N
TKL	MLK		MLK		N
TK	Src				N
CMGC	SRPK				N
CMGC	SRPK				N
CMGC	CDKL				N
STE	STE20		TAO		N
TK	Syk				N
TKL	MLK		TAKT		N
TKL	STKR		Type2		N
TK	Tec				N
TK	Tie				N
TKL	LSK		TESK		N
TKL	STKR		Type2		N
TK	Tie				N
CAMK	MLCK				N
Other	TLK				N
Other	TLK				N





STLK6	SK434
TAO3	SK435
TAO1	SK436
ZC1/HGK	SK437
ZC2/TNPK	SK438
ZC3/MINK	SK439
ZC4/NRK	SK440
LATS1	SK441
LATS2	SK442
CDK11	SK443
NIM1	SK449
ULK3	SK450
CLIK1L	SK452
TTBK2	SK453
SCYL1	SK454
MASTL	SK455
PINK1	SK456
ULK4	SK457
MLKL	SK458
DCAMKL3	SK459
SgK493	SK460
PFTAIRE2	SK462
STK33	SK463
PRPK	SK464
Erk7	SK465
CDKL4	SK466
MARKps11	SK467
SCYL3	SK468
YANK3	SK469
NEK9	SK470
TSSK3	SK471
Nuak2	SK472
RSKL2	SK473
TSSK2	SK474
SCYL2	SK475
NEK8	SK476
MARKps26	SK477
BARK2	SK478
NRBP1	SK479
PKD2	SK480
YANK2	SK481
CaMKK2	SK482
CCRK	SK483
GLK4	SK484
GRK7	SK485
DRAK1	SK486
DRAK2	SK487
DYRK3	SK488
PKD3	SK489
GCN2	SK490
SgK494	SK491
SgK495	SK492

STE	STE20	STEK
STE	STE20	TAO
STE	STE20	TAC
STE	STE20	MSN
STE	STE20	MSN
STE	STE20	MSN
STE	STE20	MSN
AGO	NDR	
AGO	NDR	
CMGC	CDK2	CDK3
CAMK	CAMK2	INTH
Other	ULK	
Other	NKFA	
CKI	TBCK	PR
Other	SCY1	
AGO	MAST	
Other	NKFA2	LE
Other	ULK	
TKL	TKL-Unique	
CAMK	DCAMK1	
Other	Other-Unique	
CMGC	CDK2	TATRE1
CAMK	CAMK-Unique	
Other	Erk32	
CMGC	MAPK	Er7
CMGC	CDK1	
CAMK	CAMK2	MARK
Other	SCY1	
AGO	YANK	
Other	NEK	
CAMK	TSSK	
CAMK	CAMK2	Nuak
AGO	RSKL	
CAMK	TSSK	
Other	SCY1	
Other	NEC	
CAMK	CAMK2	MARK
AGO	GRIK	BARK
Other	NRBP	
CAMK	PKD	
AGO	YANK	
Other	CAMKK	Mea
CMGC	CDK1	
CMGC	CLK	
CMGC	CDK1	CRK7
CAMK	DAPK	
CAMK	DAPK	
CMGC	DYRK	Dyrk2
CAMK	RKD	
Other	PEK	GCN2
AGO	RSK	
CAMK	CAMK-Unique	

[illegible]



MARKps16	SK547
MAPKAPKps1	SK549
MARKps19	SK550
MARKps17	SK551
PLK1ps1	SK554
MARKps20	SK555
MARKps15	SK556
PAK2ps	SK557
NEK5	SK558
PHKg1ps1	SK560
MARKps12	SK561
CK1aps1	SK562
TLK1ps	SK563
LIMK2ps	SK564
SAKps	SK565
ARAFps	SK567
CDK8ps	SK570
SgK050ps	SK571
CaMK1d	SK572
MAP3K8	SK573
NEK11	SK574
CHK2ps1	SK575
MARKps09	SK576
MARKps10	SK577
GPRK7	SK578
MARKps13	SK580
SgK069	SK581
HIPK4	SK582
MYO3B	SK583
TSSKps2	SK584
NEK2ps1	SK585
NEK4ps	SK586
MARKps01	SK587
Wnk4	SK588
PRP4ps	SK590
MARKps29	SK591
SgK110	SK592
MARKps22	SK594
PHKg1ps2	SK595
SRPK2ps	SK596
Erk3ps3	SK597
BRSK1	SK598
MARKps30	SK599
TSSKps1	SK600
Obscn	SK601
PSKH2	SK602
CDK7ps	SK603
SIK	SK604
KSR2	SK605
RIOK3	SK606
ADCK3	SK609
RIOK1	SK615

CAMK	CAMKL	MARK	Y
CAMK	MAPKAP	MAPKAPK	Y
CAMK	CAMK	MARK	Y
CAMK	CAMKL	MARK	Y
Other	PLK		Y
CAMK	CAMKL	MARK	Y
CAMK	CAMKL	MARK	Y
STE	STE20	PAKA	Y
Other	NEK		N
CAMK	PHK		Y
CAMK	CAMKL	MARK	Y
CK1	CK1		Y
Other	TLK		Y
TLK	LISK	LMK	Y
Other	PLK		Y
TKL	RAF		Y
CMGC	CDK	CDK8	Y
RGC	RGC		Y
CAMK	CAMKL		N
STE	STE11		N
Other	NEK		N
CAMK	RAD53		Y
CAMK	CAMKL	MARK	Y
CAMK	CAMKL	MARK	Y
AGC	GRK	GRK	N
CAMK	CAMKL	MARK	Y
Other	NKF1		N
CMGC	DYRK	HIPK	N
STE	STE20	NinaC	N
CAMK	TSSK		Y
Other	NEK		Y
Other	NEK		Y
CAMK	CAMKL	MARK	Y
Other	Wnk		N
CMGC	DYRK	PRP4	Y
CAMK	CAMKL	MARK	Y
Other	NKF		N
CAMK	CAMKL	MARK	Y
CMGC	SRPK		Y
CMGC	MARK	ERK	Y
CAMK	CAMKL	BRSK	N
CAMK	CAMKL	MARK	Y
CAMK	TSSK		Y
CAMK	Tho		N
CAMK	PSK		N
CMGC	CDK	CDK7	Y
CAMK	CAMKL	IQIC	N
TKL	RAF		N
Atypical	RIO	RIO3	N
Atypical	ABC1	ABC1-A	N
Atypical	RIO	RIO1	N

YANK1	SK624
SNRK	SK625
EphA10	SK627
Sgk196	SK628
Wee1ps1	SK629
MARKps23	SK630
STLK6ps1	SK631
HR1ps	SK632
MARKps21	SK633
CK1aps2	SK634
GGDps	SK635
MYO3A	SK636
Erk3ps4	SK637
CK1g2ps	SK639
p70S6Kps2	SK640
Vmk3	SK641
PSKH1ps	SK642
Sgk223	SK643
NEK10	SK645
EphA6	SK646
CK1g1	SK647
PLK1ps2	SK648
Sgk269	SK649
SBK	SK650
MARKps24	SK651
Sgk396	SK652
Sgk288	SK658
MRCCKps	SK660
KIS	SK661
CaMK1b	SK662
PHKg1ps3	SK663
TBCK	SK664
SMG1	SK665
MARKps02	SK672
BRAFps	SK673
FLT1ps	SK674
skMLCK	SK675
STK33ps	SK680
MAP3K7	SK681
CLK3ps	SK682
MARKps03	SK685
Erk3ps2	SK689
LRRK2	SK690
MLK4	SK691
Haspin	SK692
Trb3	SK694
CR1K	SK695
TLK2ps2	SK696
CaMKK1	SK697
LRRK1	SK698
Sgk307	SK699
RYKps	SK700

AGC	YANK		N
CAMK	CAMKL	SNRK	N
TK	Eph		N
Other	Other-Unique		N
Other	WEE		Y
CAMK	CAMKL	MARK	Y
STE	STE20	SILK	Y
Other	BEK		Y
CAMK	CAMKL	MARK	Y
CKI	CKI		Y
RGC	RGC		Y
STE	STE20	Nitac	N
CMGC	MAPK	ERK	Y
CKI	CKI		Y
AGC	RSK	p70	Y
Other	WEE		N
CAMK	PSK		Y
Other	NKF3		N
Other	NEK		N
TK	Eph		N
CKI	CKI		N
Other	PLK		Y
Other	NKF3		N
Other	NKF1		N
CAMK	CAMKL	MARK	Y
Other	Other-Unique		N
TKL	RIPK		N
AGC	DMPK	GEK	Y
Other	Other-Unique		N
CAMK	CAMK1		N
CAMK	PHK		Y
Other	TBCK		N
Atypical	PIKK	SMG1	N
CAMK	CAMKL	MARK	Y
TKL	RAF		Y
TK	VEGFR		Y
CAMK	MECK		N
CAMK	CAMK-Unique		Y
STE	STE11		N
CMGC	CLK		Y
CAMK	CAMKL	MARK	Y
CMGC	MAPK	ERK	Y
TKL	LRRK		N
TKL	MEK	MLK	N
Other	Haspin		N
CAMK	Trb3		N
AGC	DMPK		N
Other	TLK		Y
Other	CAMKK	Meta	N
TKL	LRRK		N
Other	NKF3		N
TK	Ryk		Y





